

- Did the drug affect one particular quality of pain? For example, sharp, lancinating/electrical, burning, aching, or skin sensitivity? The Neuropathic Pain Scale (table 4) can be used to help ascertain a patient's treatment response.
- Did you experience any side effects?
- Were these side effects tolerable or intolerable?
- Did these side effects subside as the medication was continued?

If the patient experienced less than "a lot of relief" and no side effects or tolerable side effects, the drug should be increased to the next higher dose. If the patient experienced intolerable side effects, the drug should be discontinued. If the side effects were tolerable and diminished over several days, the dose may be gradually titrated further.

Recommended treatment algorithm

As with all other medical conditions, the order in which drugs are prescribed for neuropathic pain should be based on 3 variables: proven efficacy, tolerability, and safety. The balance of these critical variables for a given medication, based on published controlled clinical trials and clinical experience, will help provide its rank order in a recommended treatment algorithm. Thus, using the above principle, the drug that is most likely to provide the best balance of pain relief and side effects will receive a higher ranking. As described below, although many medications have been shown to relieve neuropathic pain in some patients, a number of these drugs can potentially cause significant and even serious side effects.

Medication classes

Currently, the drugs prescribed to treat neuropathic pain (table 5) are classified as:

- Topical analgesics
- Adjuvant analgesics
- Opioid analgesics

Topical analgesics

Unbeknownst to most healthcare providers today, the use of topical drugs is an ancient form of pain therapy. Centuries ago, Egyptians and Chinese began applying medication directly to the skin of a painful body region in order to produce analgesia. Interest in topical drugs has increased in recent years, and in 1999 a topical lidocaine patch became the first drug approved by the US Food and Drug Administration (FDA) for the treatment of postherpetic neuralgia, a common neuropathic pain syndrome.

It is imperative to differentiate true topical medications from transdermal medications. As shown in table 6, there are significant differences among topical and transdermal drugs.

A true topical analgesic has the following characteristics:

- The medication is applied directly to the skin overlying the painful region.
- The medication penetrates the skin effectively.
- The site of the mechanism of action is local activity in the peripheral tissues, such as the peripheral nociceptors in the skin.
- No clinically significant systemic blood levels can be measured.

Topical drugs have the potential to be excellent medication for peripheral neuropathic pain syndromes, such as PHN, polyneuropathy, neuroma, and CRPS. In clinical practice, several advantages are inherent in topical drug delivery over oral agents, including:

- Lack of systemic side effects
- Lack of drug interactions

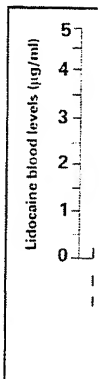
I
L
E
A
A
E

F
P
D
D
U
R

Th
He
A C

Table 6. Topical vs transdermal drug delivery

	Topical	Transdermal
Application site	Directly on painful skin	Distant from painful region
Site of activity	Local (peripheral soft tissue, nerve)	Systemic
Serum drug concentration	Insignificant	Necessary
Systemic side effects	Unlikely	Yes
Titration needed	No	Yes
Drug interactions	No	Yes

**Figure 4.**

* In normal

therapeutic concentration used to treat cardiac arrhythmias (figure 4).

Clinical trials and clinical experience. Controlled clinical trials have demonstrated that the lidocaine patch significantly relieves pain and allodynia in the majority of PHN patients when placed directly over the painful region. Anecdotal experience also suggests that this drug may be beneficial for other peripheral neuropathic pain syndromes, including painful polyneuropathy, such as diabetic and human immunodeficiency virus (HIV) neuropathy, postmastectomy pain, post-thoracotomy pain, and CRPS.

Acute side effects. The lidocaine patch may cause a localized minor skin irritation at the application site. Such reactions are generally mild and transient, resolving spontaneously within minutes to hours.

Chro
patch ha
long-ten

Reco
of the lic
significa
effects c
dation t
treatme
pain spe
useful fo
conditio

Dosa
skin, dir
12 hour:

Topical
Mecl
active s

A clinical guide to NEUROPATHIC PAIN

Adapted from H + a's
"Chronic Pain and Headache CD-ROM."
www.hastore.com

NOTICE

In an effort to provide information that is complete and consistent with medical practice, the editors and publisher of this handbook have checked with sources believed to be reliable. However, because of the possibility of human error or changes in medicine, neither the editors nor the publisher, nor any other party who has been involved in the preparation or publication of this work, warrants that the information it contains is accurate or complete in every respect, and they are not responsible for any errors or omissions or for the results obtained from the use of this information. Readers are encouraged to confirm this information with other sources. For example, and in particular, readers are advised to check the prescribing information in the manufacturer's package insert before prescribing any drug.

Bradley S. Galer, MD

Director, Program for Pain Due to Nerve Injury
Department of Pain Medicine & Palliative Care
Beth Israel Medical Center, New York, New York
Associate Professor of Neurology
Albert Einstein College of Medicine
Bronx, New York

Robert H. Dworkin, PhD

Professor of Anesthesiology, Oncology, and Psychiatry
Director, Center for Analgesic Research
Department of Anesthesiology
University of Rochester School of Medicine and Dentistry
Rochester, New York



The McGraw-Hill Companies

Healthcare Information Programs
A Division of McGraw-Hill Healthcare Information

2000